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2020-09-21

NPS in the News Weekly Media Report - Sept. 15-21, 2020

Naval Postgraduate School (U.S.)

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NPS IN THE NEWS

Weekly Media Report –Sept. 15-21, 2020

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COVID-19:

1. [Fit for Fight: Navies Challenged by COVID at Sea, Ashore](#)

(*MarineLink 17 Sept 20*) ... Ned Lundquist

Despite the COVID-19 pandemic, navies adjusted how they operate at home and while deployed, to keep their forces ready for any missions as they keep their Sailors, families, communities, as well as allies and partners safe from the coronavirus... the Naval War College in Newport R.I., is using tools like Zoom, Blackboard and Microsoft Teams for orientation and instruction. **The summer quarter education at Naval Postgraduate School in Monterey, Calif, will be delivered via distance learning, although a small number of students will be allowed to perform lab work and research and take part in classified classes.** For ships at sea, the number of safe ports to visit has been dramatically reduced. Guam in the Pacific and Rota, Spain in the Mediterranean are two examples of ports where the Navy already has a presence and can ensure compliance with COVID protocols.

EDUCATION:

2. [NPS Launches Distance Learning Graduate Certificate in Great Power Competition](#)

(*Navy.mil 17 Sept 20*) ... Mass Communication Specialist 2nd Class Taylor Vencill

The Naval Postgraduate School (NPS) is launching a new distance learning graduate certificate in Great Power Competition (GPC), with the first cohort starting in January of 2021. With applications from active duty Navy and Marine Corps Officers being accepted now through September 28, School of International Graduate Studies officials anticipate the program's open seats will fill quickly.

RESEARCH:

3. [Navy 'Gray-Zone Behavior' Study Part of Military Sexual Assault Prevention and Response Effort](#)

(*Military Times 16 Sept 20*) ... Jared Morgan

In an effort to get ahead of potential sexual misconduct, the Navy has been using research and training models to learn more about "gray-zone behavior," or acts that don't meet the Navy's definition of sexual harassment or sexual assault.

Navy officials recently spoke exclusively to Military Times about that research in a teleconference hosted by the **Naval Postgraduate School** and the Department of the Navy Sexual Assault Prevention and Response Office, or DON SAPRO. Researchers and communications representatives from those elements were on the call, as was a Navy spokesperson.

FACULTY:

4. [USDA Funds K-State Research on COVID-19 in Meat Processing Plant](#)

(*WIBW 15 Sept 20*) ... Sarah Motter

The U.S. Department of Agriculture is supporting research at Kansas State University looking at COVID-19 in meat and poultry processing facilities ... K-State said collaborating with the team are co-project directors from the



University of Georgia poultry science department, Harsha Thippareddi and Manpreet Singh, providing extensive poultry experience and industry connections and lead the grant's industry outreach efforts. It said Valentina Trinetta and Sara Gragg, food safety faculty from the Food Science Institute, are co-project directors. It said **co-investigator Anke Richter, a public health-focused operation research specialist at the Naval Postgraduate School**, will lead the risk assessment driven by mathematical modeling. It said co-investigators Yunjeong Kim and Erin Schirtzinger in the College of Veterinary Medicine and the Food Science Institute's Daniel Vega round out the project team.

5. [Why the U.S. Still Has a Severe Shortage of Medical Supplies](#)

(*Harvard Business Review* 17 Sept 20) ... Robert Handfield, Peter Guinto, & **USAF Maj. Daniel Joseph Finkstadt, Naval Postgraduate School GSDM Assistant Professor**

It may be hard to believe after all these months, but the shortages of personal protective equipment (PPE) and other critical health care supplies for dealing with the pandemic in the United States *still* haven't been solved. Instead, they continue and some have gotten worse. Hospitals, nursing homes, and medical practices routinely have to waste time and heighten their disease exposure by decontaminating disposable masks and gloves for reuse. Many organizations must still forage for critically needed equipment through back channels and black markets. And while the supply of ventilators is no longer an issue, shortages of ICU medications and test-kit reagents remain.

6. [US Election 2020: Russian Hackers 'Ramp Up Attempts' to Attack Trump and Biden Campaigns](#)

(*Express.co.uk* 19 Sept 20) ... Manon Dark

Russian, Iranian and Chinese hackers have stepped up their attempts to target groups and individuals linked to the 2020 US presidential election which could undermine American democracy, an expert has warned ... **Scott Jaspas, lecturer in the National Security Affairs Department at the US Naval Postgraduate School**, told *Express.co.uk* why the hackers may be trying to infiltrate the US election.

7. [Most of the Arctic's Microscopic Algae Are Chilling Under Ice](#)

(*EOS.ord* 21 Sept 20) ... Rachel Fritts

New modeling has produced a surprising result: Most photosynthesis in the Arctic Ocean happens under the ice rather than in the open ocean.

"What we're seeing now is thinner sea ice and earlier snowmelts, so there's more light actually reaching through the ice into the surface of the ocean than there used to be," said Jaclyn Kinney, an oceanographer with the Naval Postgraduate School in Monterey, Calif. "These little algal cells can grow better than they used to."

ALUMNI:

8. [Joseph Dituri aka Dr. Deep Sea, Who is He!!](#)

(*America Daily Post* 15 Sept 20) ... Theresa Davidson

Probably, the name Dr. Deep Sea is more popular than Joseph Dituri, his real name. And there is no doubt that everyone is now fully aware of who Dr. Deep Sea is but how he came to earn the very name and what he did is known to a very few people.

It all began in 1985 when Joseph Dituri, a Naval Postgraduate School alumnus, was enlisted in the U.S. Navy. For several years, he worked hard and served actively on various ships and shore stations where he used to be involved in saturation diving and ship repair, and he loved every moment of it. Joseph Dituri served at his designation for ten years. At the same time, he also got enrolled in a bachelor's degree in Computer Science at the University of South Carolina.

9. [Finalist Identified for Truro Town Manager Post](#)

(*Cape Cod Times* 15 Sept 20) ... Ethan Genter

The Select Board will interview a fourth candidate for the town manager job next week.

On Tuesday, the board unveiled Darrin Tangeman, a Naval Postgraduate School alumnus, the city manager of Woodland Park, Colorado, as the last finalist to be interviewed for the top job in town.

10. [A Tribute to the Seven Crew Members Tragically Killed Aboard the Challenger](#)

(*Men's Health* 15 Sept 20) ... Adrianna Freedman

On January 28, 1986, five astronauts and two payload specialists (which included one teacher) stepped onto the space shuttle Challenger at the Kennedy Space Center in Cape Canaveral, Florida. The mission was meant to be a routine event; the crew would help bring a series of satellites to space. No one expected seventy-three seconds after takeoff that the shuttle would not only explode, but kill all crew members aboard.

11. [Where is Michael J. Smith's Family Now?](#)

(*The Cinemaholic* 15 Sept 20) ... Kriti Mehrotra

Netflix perfectly describes the plot of their four-part original documentary series 'Challenger: The Final Flight,' with its synopsis, saying: "Engineers, officials, and the crew members' families provide their perspective on the 1986 Space Shuttle Challenger disaster and its aftermath." From why the shuttle had a teacher as a crew member to how it exploded, this series delves deep into covering every aspect, including the decision-making process and the engineering faults that ultimately caused 7 innocent space travelers to lose their lives. Among those who recount the events of that day and remember the collateral damage are the wife and children of Michael J. Smith, a Naval Postgraduate School alumnus and the Pilot of the Challenger Space Shuttle.

12. [Test Pilot School Alumni Reach for the Stars](#)

(*NAS Patuxent River Tester* 17 Sept 20) ... Rob Perry

The first group of NASA astronauts since the announcement of the Artemis program graduated from the Johnson Space Center in Houston during a ceremony Jan. 10. Among the graduates were two men and a woman who attribute their success, in part, to attending the U.S. Naval Test Pilot School (USNTPS).

Matthew Dominick, a Navy lieutenant commander and Naval Postgraduate School alumnus, graduated from USNTPS, based at Naval Air Station Patuxent River, Maryland, and served on USS Ronald Reagan (CVN 76) as department head for Strike Fighter Squadron (VFA) 115. Dominick was one of 11 NASA and two Canadian Space Agency astronauts in the recent graduation class.

ACADEMIC PUBLICATIONS:

- [Fluid-Structure Interaction of Composite Structures](#) ... Dr. Young W. Kwon, Distinguished Professor, GSEAS Mechanical and Aerospace Engineering
- [Scattering of Low-Frequency Sound by Compact Objects in Underwater Waveguides](#) ... Dissertation by Naval Postgraduate School 2018 alumnus USN Lt. Cmdr. Alexander B. Baynes and Dissertation Supervisor Dr. Oleg A. Godin, GSEAS Physics Department Professor, was published in the [Journal of Theoretical and Computational Acoustics](#).

UPCOMING NEWS & EVENTS:

September 21 – 24: [Warfare Innovation Continuum \(WIC\) Workshop](#)

September 25: Summer Quarter Graduation

October 12: Columbus Day



COVID-19:

Fit for Fight: Navies Challenged by COVID at Sea, Ashore

(*MarineLink* 17 Sept 20) ... Ned Lundquist

Despite the COVID-19 pandemic, navies adjusted how they operate at home and while deployed, to keep their forces ready for any missions as they keep their Sailors, families, communities, as well as allies and partners safe from the coronavirus.

Navies have taken a number of prudent preventative measures to limit outbreaks, mitigate cases of infection and reduce the community spread of the virus.

Speaking during his May 29 “On The Horizon: Navigating the European and African Theaters” podcast, Admiral James G. Foggo III, Commander of U.S. Naval Forces Europe and Africa, said The U.S. Navy is “open for business. “Basically, it means that our Navy, no matter what the circumstances, will provide maritime security where and when it’s needed. No matter how tough this thing, the coronavirus, gets, we just can’t let our guard down.”

The global COVID-19 pandemic has had a major impact on navies--from how they manage maintenance and sustainment; to how they train, educate, exercise and operate; to how they have contained the pandemic and treated personnel; to how they have helped respond to people in need.

For Assistant Secretary of the Navy for Research, Development and Acquisition James Guerts, his top priority during the COVID crisis has been keeping a healthy workforce. “We have not closed a single shipyard or FRC (fleet readiness center) through the crisis. We’ve maintained a strong industrial base, and we’ve made sure we’ve got the worked queued up. We have been able to keep new and existing programs on track with high confidence, increasing current readiness and driving costs down. Now we need to focus on the future, so when we get out past COVID we’re not where we were, but where we need to be.”

Later he admitted that the pandemic has caused disruptions that have led to some inefficiencies, which have added to cost, but that the Navy is committed to keep work funded and on track.

“The fleet’s operating tempo has not slowed down, so we can’t slow down,” Guerts said.

Shipboard infections

COVID cases have occurred on naval vessels around the world, and in some instances ship operations have been curtailed by a Coronavirus outbreak. About one out of every three Sailors aboard the USS Theodore Roosevelt (CVN 71), and aircraft carrier with a ship’s company of about 3,000, became infected, and one sailor died. Most of the crew was moved ashore in Guam until they could be free of the virus.

In the case of the USS Kidd (DDG 100), the guided missile destroyer left Pearl Harbor in late March to support counter-drug operations in the eastern Pacific, with apparently no cases of COVID 19, yet nearly a quarter of the crew of 330 were infected when she arrived at San Diego more than a month later. Two of the crew had to be evacuated during the transit. Most of the crew was removed for treatment in San Diego while a skeleton crew remained on board. The ship was able to resume operations on June 10.

During a Mediterranean deployment this spring, the virus infected more than 1,000 crew members—nearly half of the crew-- aboard the French aircraft carrier Charles de Gaulle. Several sailors were hospitalized. The ship underwent a cleaning and disinfecting process when it returned to port, and all crew members were tested and monitored.

On Mar. 30, the Dutch Ministry of Defense announced that the country’s Walrus class attack submarine HNLMS Dolfijn, had to return to port two weeks early after eight members of its 58-person crew tested positive for COVID-19, and others displayed symptoms. The crew was placed in quarantine after returning to the Netherlands. The crew was tested, those infected were treated and the sub subsequently cleaned. The Dolfijn was back to sea with the same crew three days later.

Exercising caution

While some at-sea exercises were postponed, cancelled or curtailed, other went ahead with prudent precautions in place.

The biennial Rim of the Pacific (RIMPAC) maritime exercise is being conducted as an at-sea-only event in light of COVID-19 concerns. The exercise was planned to conduct a meaningful exercise with maximum training value but minimum risk to the force, allies and partners, and the people of Hawaii. “In these challenging times, it is more important than ever that our maritime forces work together to protect vital shipping lanes and ensure freedom of navigation through international waters,” said Commander, U.S. Pacific Fleet Adm. John Aquilino. “And we will operate safely, using prudent mitigation measures.”

As the U.S. Navy continues to limit the spread of COVID-19, RIMPAC 2020 is not scheduled to include social events ashore. Joint Base Pearl Harbor-Hickam will be accessible for logistics support, with a minimal footprint of staff ashore for command and control, logistics, and other support functions.

According to a NATO statement from Allied Maritime Command regarding the recent Dynamic Mongoose multi-national ASW exercise, just one sailor with COVID-19 could mean the entire ship becomes infected. “All our missions have robust procedures in place to protect our people and prevent the spread of the virus. The particular action of each ship is dictated by the ship’s national policies. In general, it’s limiting contact between ships, hand washing, disinfecting of supplies transferred, routine ship dis-infecting and, when in port for resupply, crews are not allowed to leave their ships. Our ships are essentially self-quarantined in place as units,” the statement read.

“It is vital that we are able to conduct our operations and tasks regardless of the threat from COVID-19. Reducing the risk of getting the virus on board our ships in the task group is therefore one of my top priorities”, said Commodore Yngve Skoglund of the Royal Norwegian Navy, Commander of Standing NATO Maritime Group One (SNMG1), and who led the ships participating in the Dynamic Mongoose exercise.

Ships from Standing NATO Mine Countermeasures Group Two (SNMCMG2) that were participating in the Dynamic Manta ASW exercise in the Mediterranean started implementing protective measures starting as early as Feb 27, including a wet chloramine carpet at the flagship entrance, antibacterial gel cans, masks and gloves.

Around 30 ships from 19 NATO Allied and partner nations participated in the annual BALTOPS maritime exercise in the Baltic in June, although the amphibious component of the exercise was cancelled along with ships visits and personnel exchanges because of COVID concerns.

Royal Danish Navy Commander s.g. Henning Knudsen-Hauge, Commander of Standing NATO Mine Countermeasures Group One, said his ships disinfected provisions and spare parts taken on board, and eliminated physical contact with personnel outside the group. Port visits were replaced by short logistical stops without shore leave, and all official calls were either cancelled or digitalized.

People, training and education

Tens of thousands of Sailors as well as family members, who were scheduled to move to a new duty station were affected by a “stop movement order” in mid-March that lasted about five months and temporarily halted all travel. This took place right in the middle of the busy summer months when families typically execute permanent change of station moves between school years. Many Sailors couldn’t depart for their next assignment until their relief had reported aboard.

Training and education have been affected by the pandemic. In the U.K., Cadets from Royal Navy university units are volunteering to drive ambulances, treat coronavirus patients, look after the vulnerable in lockdown and even advise political leaders – at the same time as they continue their studies.

As the pandemic spread, service academy students were sent home and completed their coursework online. The U.S. service academies created online workouts and exercise sessions for students to keep up their physical training.

The U.S. Naval Academy and Coast Guard Academies held virtual graduation and commissioning ceremonies. The usual commissioning ceremonies for the Naval Reserve Officers Training Corps and universities around the country were cancelled and replaced with virtual events.



The Marquette University NROTC unit commissioned its midshipmen as ensigns and second lieutenants administering the oath of office during in a ceremony carried on YouTube. The new officers were in uniform at their homes, and had their families and friends put on their new insignia as officers.

New recruits attending the Navy's enlisted boot camp at Recruit Training Command in Great Lakes in Illinois, are sequestered for a 14-day ROM as a COVID mitigation measures. Incoming freshmen at the U.S. Naval Academy in Annapolis, Md., underwent a 14-day ROM in Bancroft Hall, the academy's huge dormitory.

The Naval War College in Newport R.I., is using tools like Zoom, Blackboard and Microsoft Teams for orientation and instruction. The summer quarter education at Naval Postgraduate School in Monterey, Calif, will be delivered via distance learning, although a small number of students will be allowed to perform lab work and research and take part in classified classes. For ships at sea, the number of safe ports to visit has been dramatically reduced. Guam in the Pacific and Rota, Spain in the Mediterranean are two examples of ports where the Navy already has a presence and can ensure compliance with COVID protocols.

The crew of USS Nimitz (CVN-68) was sequestered inside the skin of the carrier for nine days of a 14-day ROM period before heading to sea for pre-deployment training.

The USS Dwight D. Eisenhower (CVN 69) and USS San Jacinto (CG 56) returned to their homeport of Norfolk, Virginia, on Aug 9th. Due to the COVID 19 pandemic, the ships remained continuously at sea for 200 days. with no port visits.

Caribbean Cooperation

France, the Netherlands and the United Kingdom are working together to provide a coordinated humanitarian response in the Caribbean, where all three nations have a presence. The French amphibious assault ship Dixmude, British primary casualty receiving ship RFA Argus and Dutch multi-function support ship for amphibious operations HNLMS Karel Doorman are now in the region to help with the COVID-19 crisis currently affecting their overseas territories.

RFA Argus and her 100-bed medical facility, was already scheduled to sail for the Caribbean, a region that contends with severe hurricanes and tropical storms each year, and Argus is prepared to respond if needed, but she is well equipped to assist British Overseas Territories dealing with the COVID-19 outbreak. In addition to Dixmude, the French navy mobilized its other two its Mistral-class amphibious assault ships in response to the coronavirus pandemic. Mistral was dispatched to support the French territory of Reunion in the Indian Ocean, and Tonnerre was sent to Corsica. The Karel Doorman carries a medical support unit and can also supply the other with fuel. A coordination cell has been set up on the French island of Martinique to manage cooperative efforts when necessary. Looking to the not-too-distant future, normality won't return until the virus can be prevented. Russia already claims to have a vaccine. A number of promising multi-national efforts are underway. The U.S. Department of Defense claims that the public-private partnership "Operation Warp Speed," is on track to meet its goal of delivering 300 hundred million doses of safe and effective COVID-19 vaccines by the end of the year. In any event, navies will likely play a role in testing and administration of new vaccines to combat COVID 19.

Global impact

Even in February navies were becoming aware of the virus. When the Royal Malaysian Navy (RMN) ship KD Lekiu was assigned to escort a floating superstructure owned by Malaysian oil company Petronas from South Korea to Malaysia, everyone on board was given a clean bill of health prior to leaving home port, and again when they arrived at Geoje-do, an island off the port city of Busan. According to RMN Lt. Norzuhaira Ruhanie, a new normal started to creep into the ship's operation and routine when the global pandemic was declared, including a greater focus on good hygiene.

"In port, masks were procured for the crew and hand sanitisers in the sick bay were put to good use," Ruhanie said. "Social distancing was practiced as much as possible. The medical officer on board, Lt (Dr) Amirul Arzahar, was kept busy with regular screening of the crew throughout the return journey. The



commanding officer, Captain Shaiful Nizam, realised the journey home was a form of self-quarantine for him and the crew. No crew members became infected during the mission.”

The RMN is working closely with the Malaysian Armed Forces’ Health Service Division and the Army’s Royal Medical and Dental Corps, in preparing a standard operating procedure,” she said. “Regular screening and health checks are now required of all navy personnel involved in routine operations.”

In Thailand, the Navy and other services had to cut their budgets by a third to enable the government to fight the pandemic. Among the cost-cutting measures being implemented, the Navy is postponing procurement of its second and third submarines as a result.

The Bangladesh Navy assisted the civil administration in implementing the government’s directives to fight coronavirus. Navy personnel distributed food, water, masks and disinfectant soap to local communities, and conducted an awareness campaign about social distancing and sanitation to prevent the virus transmission. The Navy had ships visiting ports and fishing villages to raise awareness among local communities about the coronavirus outbreak.

<https://www.marinelink.com/news/fit-fight-navies-challenged-covid-sea-481760>

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EDUCATION:

NPS Launches Distance Learning Graduate Certificate in Great Power Competition

(Navy.mil 17 Sept 20)

(NPS.edu 17 Sept 20) ... Mass Communication Specialist 2nd Class Taylor Vencill

The Naval Postgraduate School (NPS) is launching a new distance learning graduate certificate in Great Power Competition (GPC), with the first cohort starting in January of 2021. With applications from active duty Navy and Marine Corps Officers being accepted now through September 28, School of International Graduate Studies officials anticipate the program’s open seats will fill quickly.

“NPS holds a key role as the United States Navy’s premier graduate institution to educate the force,” said Cmdr. Paul Rasmussen, National Security Affairs (NSA) Program Officer. This certificate from the NSA Department contributes to broad Navy efforts to ensure that the officer corps is educated effectively in the area of Great Power Competition to help Naval leadership better understand how we need to shape our tactics, policies and procedures moving forward, he said.

The COVID-19 environment, and the subsequent increased use of distance learning coursework has enabled NPS to expand its portfolio of distance learning programs. Resident professors have rapidly learned new ways to teach and reach students beyond the Monterey classrooms.

“We have a world-class faculty in NPS’ National Security Affairs (NSA) Department, and they have delivered all NSA courses through distance learning this past Spring and Summer,” said Rasmussen. “Through this certificate we will be able to expand our reach and educate a broader student base that previously was unable to take advantage of what NPS has to offer.”

As detailed in Great Power Competition Distance Learning communications to the fleet, the certificate consists of four courses: GPC in Modern History, Current GPC Policy and Strategy, Russian Domestic Politics, and Chinese Domestic Politics. Students who complete this certificate can later apply these credits towards an NPS in-residence degree. According to Rasmussen, it’s an attractive option for officers in under-represented designators at NPS, like aviation, who do not typically have time in their career track to come to Monterey.

“An NSA degree normally takes 18 months,” said Rasmussen. “However, if you complete this certificate before you come to NPS, and subsequently enroll in our 688 Strategic Studies master’s degree curriculum, with only one year in Monterey an officer could get an in-residence NPS master’s degree and simultaneously complete Joint Professional Military Education phase one.



“A common tenant across all current naval and defense strategies is the need for continuous learning across the force,” Rasmussen continued. “This certificate is very well targeted to meet multiple Navy and broader DOD education initiatives that are coming out of the Pentagon. In an era of Great Power Competition, where military versus military is not the only battlefield, it’s important to prepare the minds of our current and future leaders.”

<https://www.navy.mil/Press-Office/News-Stories/display-news/Article/2351609/nps-launches-distance-learning-graduate-certificate-in-great-power-competition/>
<https://nps.edu/-/nps-launches-distance-learning-graduate-certificate-in-great-power-competition>

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RESEARCH:

Navy ‘Gray-Zone Behavior’ Study Part of Military Sexual Assault Prevention and Response Effort

(Military Times 16 Sept 20) ... Jared Morgan

In an effort to get ahead of potential sexual misconduct, the Navy has been using research and training models to learn more about “gray-zone behavior,” or acts that don’t meet the Navy’s definition of sexual harassment or sexual assault.

Navy officials recently spoke exclusively to Military Times about that research in a teleconference hosted by the **Naval Postgraduate School** and the Department of the Navy Sexual Assault Prevention and Response Office, or DON SAPRO. Researchers and communications representatives from those elements were on the call, as was a Navy spokesperson.

In 2018, DON SAPRO partnered with the college, located in Monterey, California, to refine efforts to prevent sexual misconduct within its ranks before it occurs.

The research is meant to give first-line supervisors training on how to handle inappropriate behavior in the workplace and should be ready to roll out to the fleet within the next year.

“When people think about SAPR, they immediately think about response,” said Dr. Jessica Gallus, senior advisor for the DON SAPRO, in a teleconference last week with Military Times. “We’re absolutely committed to providing victims with world-class care when they do experience sexual assault, but for us it’s just as critical that we focus on prevention.”

Gallus was also previously the deputy director of the Air Force’s Resilience Office, and she managed a research initiative on sexual harassment and assault within the Army’s sexual harassment/assault response and prevention program, or SHARP.

The issue of sexual misconduct in the military received increased attention as new developments surfaced in the case of an Army soldier who disappeared from Fort Hood on April 22 and was later found dead. Twenty-year-old Spc. Vanessa Guillen’s case revealed she may have been sexually harassed beforehand, according to family members who claim Guillen confided in them about two separate incidents.

Guillen’s family will join lawmakers on Wednesday to announce legislation making sexual harassment a criminal activity under the Uniform Code of Military Justice. Sexual assault is already a categorized crime under the UCMJ, according to the Defense Department’s Sexual Assault Prevention and Response Office, or DOD SAPRO.

Gray-zone behavior

Dr. Gail Thomas, an associate professor at the NPS Graduate School of Defense Management, heads up the initiative and employs “situational judgement tests,” or SJTs, that use real-world scenarios of gray-zone behavior. One scenario features a man complimenting a woman’s new haircut then follows up the



comment with a wink. Depending on other factors, this act alone likely wouldn't fall under the Navy's definition of sexual harassment, but it's also not conducive to a healthy work environment either, Thomas said. These tests are used in the corporate world and other places to assess individual ability to navigate potentially sensitive scenarios in a work environment.

Thomas, whose background is in inter-organizational collaboration and strategic communication, drew on her 30 years of experience working with the Navy, "so I'm familiar with these stories," she said during the teleconference.

Thomas and her team took to "the field" to ask junior officers and sailors about their experiences with inappropriate behavior.

"They had no lack of stories to tell," Thomas said.

In 2019, The Navy was third in the number of reported sexual assault cases, below the Army and Marine Corps, according to the Defense Department's SAPR office. During the 2019 fiscal year, there were some 6,236 reports of sexual assault in the Armed Forces, a 3 percent increase from the previous year.

Testing the test

To measure the potential impact of the SJTs, Thomas decided to test the test, she said.

"Anecdotally, I heard a lot of stories of 'where did you get these incidents? The same thing happened to me,'" Thomas said. "They came from people like them. That's why, I think, they resonate with people. I got several comments [similar to] 'this doesn't look like any other training I've ever seen before.' So, that's what made me feel like maybe we've hit on something."

Thomas said she's looking to help the Navy create better, more healthy work environments.

"I would argue that the Navy, more than ever now, needs to be able to have that kind of condition at work," Thomas said. "We need to be able to recruit people who want to come to this kind of place. We need to keep people."

In addition to bolstering the Navy's recruiting and retention efforts, the training will allow leadership and the rank and file the tools they need to succeed, Gallus said.

"It's about empowering sailors and Marines to enact culture change," Gallus said. "So, it's giving them the tools where they can create the climate where these things don't happen. We know that climate is the biggest driver of sexual harassment and that sexual harassment is a risk factor for sexual assault. If we can start at the earliest signs of challenging behavior, I think we have a much better ability to prevent some of those escalations."

Marine nude photo scandal

In March 2017, news broke about an online group of mostly Marines who were sharing nude photos of fellow service members, sometimes with personally identifiable information. The Marine Corps took swift action, ordering an end to the sharing and issuing a disciplinary page 11 for all Marines to sign, acknowledging they understood the order being given. Page 11 refers to the section of a Marine's service record reserved for administrative comments.

"Marines are geared toward action, and our response to improving our culture is no different," said Marine Corps spokesperson Capt. Casey Littesey, in an email to Military Times on Monday. "While we do not have all the answers, we do know the end state: continue to take steps that foster a culture of dignity, respect, and trust for all."

The Marine Corps has since worked to implement several institutional changes to improve its culture and the Marine Corps court-martialed seven Marines involved a year after the incident.

Vanessa Guillen

The military has a lot of work to do if it is to stamp out instances of sexual misconduct and enact a culture change, as an April Defense Department study shows.

The Guillen news has sparked national outrage and prompted the Army to review its SHARP program. Created in 2009, the SHARP program is required annually at the unit level and includes videos



and other interactive training tools, as well as situational scenarios on sexual harassment and sexual assault.

Fixing its own house

There are many reasons why the victims of sexual harassment and sexual assault don't report incidents. In many cases, they fear retaliation from their peers and their chain of command. In 2015, then-Defense Secretary Ash Carter directed the DoD to address the issue and Congress followed suit in 2016 in its Defense Authorization Act. What resulted was the Retaliation Prevention and Response Strategy: Regarding Sexual Assault and Harassment Reports.

"Our most recent data show a significant percentage of military victims of sexual assault indicate they perceive some kind of retaliation after reporting the crime to authorities," Carter wrote. "The Department will not tolerate divisive behavior at odds with the military's core values."

Many are critical of the military's track record in responding to cases of sexual misconduct.

The family of Guillen has criticized the Army, calling for the creation of a third-party agency for the victims of military sexual harassment to use as a go-around to report their claims.

Thomas and Gallus wouldn't speak directly to the Guillen murder or about the claims she was sexually harassed beforehand, but Thomas said the work she's doing will have an impact and potentially create a professional atmosphere where gray-zone behavior won't occur.

"It's because people I don't think are educated to take care of those things that you have to go to the third party," Thomas said. "What I'm hoping to do is — why do we have to go to a third party?"

Military justice reform

For some, the military isn't doing enough to punish those who commit sexual harassment or sexual assault.

"The optimist in me tells me we're at the crossroads because of the Vanessa Guillen situation and the 'I am Vanessa Guillen' hashtag that I think there's pressure now in the military to finally do something, and pressure on Congress to take seriously reform in its justice system," said Don Christensen, president of the nonprofit Protect Our Defenders, in an interview with Military Times last week. "But we know that reports — we don't know what they are this year, but they've been going up every year."

Training is part of the solution, but it's not enough, said Christensen, a retired colonel who served as chief prosecutor for the Air Force from 2010-2014 and spent his entire 23-year military career as either a trial counsel, defense counsel or military judge. His group provides legal counsel to victims of sexual assault and lobbies for reform of the military justice system.

"No one thinks murder's OK, but it still happens," Christensen said. "You can train people not to rape or commit sexual assault or sexual harassment. It's still going to happen."

The military will never completely be free of sexual misconduct, but holding people accountable is the only real way to get these instances down to "acceptable levels," Christensen said.

"They [the military] seem to accept that they're terrible at it and they put all their eggs in the training basket," Christensen said. "Well, think how bad murder would be if people knew there were no consequences to it and that's really what's happening in the military."

Christensen claimed a huge percentage of sex offenders are never held accountable in the military and that it has to do a better job investigating claims.

"They have to do a better job in prosecutions, they have to reform the system to take commanders out of the role they're ill-equipped to have — and that is making prosecution decisions," Christensen said. "Prosecuting sexual assault and rape cases is extremely difficult. It takes years to be good at it. There is not a commander in any service at any level that is qualified to make prosecution decisions. Clear and simple."

In a letter directed at House and Senate legislators negotiating the final 2021 National Defense Authorization Act, other lawmakers called for, among other things, the creation of a pilot program to test an independent prosecutor for special victim offenses at the Military Service Academies, where cases of sexual misconduct were up some 30 percent from the previous year.



The Navy made it clear that its NPS gray-zone research is only looking to define those behaviors that aren't currently categorized, "but are nonetheless detrimental to morale and productivity," said Navy spokesperson Lt. Brittany Stephens in an email to Military Times.

"I would like to emphasize that these negative behaviors are counter to our core values of honor, courage, and commitment," Stephens said.

Military sexual trauma and veterans

For many service members who have experienced sexual assault in the military, finding the resources to live healthy and productive lives can be difficult.

"After service, many of those with military sexual trauma find themselves at the VA seeking services or picking amongst other non-VA services that they might be able to find depending on their location and situation," said Teresa Banko, executive director of the Veteran Family Wellness Center in Los Angeles, in an email to Military Times.

It takes a lot of time to schedule and attend VA appointments and delving back into past trauma can be painful for many, said Banko, whose organization is a partnership between the University of California Los Angeles and the Veterans Affairs Greater Los Angeles Healthcare System.

"The MST survivor's potential role in family breadwinning and caretaking can preclude both their ability to take part in and the ease of accessing therapeutic services, Banko said. "If a woman or a man is working and/or caring for children and others, opening the deep wounds of sexual trauma can be both emotionally devastating and costly."

<https://www.militarytimes.com/news/your-military/2020/09/16/navy-gray-zone-behavior-study-part-of-military-sexual-assault-prevention-and-response-effort/>

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FACULTY:

USDA Funds K-State Research on COVID-19 in Meat Processing Plant

(WIBW 15 Sept 20) ... Sarah Motter

The U.S. Department of Agriculture is supporting research at Kansas State University looking at COVID-19 in meat and poultry processing facilities.

Kansas State University says a team of researchers is using a \$1 million grant from the U.S. Department of Agriculture with an additional grant from the State of Kansas, to study how to control the spread of SARS-CoV-2, the virus causing COVID-19, in America's meat and poultry processing facilities.

K-State said the study, "Translating SARS-CoV-2 Research Into Practical Solutions For The Meat And Poultry Processing Industry," looks to protect meat plant workers and their communities from the spread of COVID-19. It said the research involves researchers from its College of Veterinary Medicine and College of Agriculture.

According to K-State, as part of the study, \$330,000 from the State of Kansas National Bio and Agro-Defense Facility Transition Fund is to be used for research in K-State's Biosecurity Research Institute at Pat Roberts Hall. It said the BRI is a high-containment research facility.

K-State said a key objective of the project is verifying the effectiveness of approved cleaners and sanitizers for inactivating COVID-19 during plant processing and sanitation processes.

"Nationally and internationally, many facilities that produce meat and poultry products have been temporarily closed because of COVID-19 outbreaks," said A. Sally Davis, an assistant professor of experimental pathology in the College of Veterinary Medicine and project director of the K-State grant. "This has put a major strain on food production, limiting the amount of meat and poultry on grocery store shelves and disrupting food and feed supply chains across the globe. Research is necessary to understand



why SARS-CoV-2 is such a problem in meat and poultry processing environments and how we can mitigate the problem.”

Davis said infections with COVID-19 are primarily thought to happen by exposure to infectious microdroplets in the air and contaminated surfaces.

“We are investigating the conditions within meat and poultry processing environments, such as low temperatures, relative humidity, increased air movement and workers being in close proximity to one another, to help identify areas and surfaces that are at high risk for contamination and spread of infectious SARS-CoV-2,” Davis said.

According to K-State, the team will look at potential sources of exposure and determine the amount and longevity of infectious virus that is present during an after-meat processing and packaging activities. It said the team is looking to identify, develop, validate and deliver practical cleaning and disinfection strategies, as well as develop mathematical models to predict and reduce the risk of SARS-CoV-2 exposure in meat and poultry processing facilities.

K-State said joining Davis on the research team are food safety faculty from its Food Science Institute, which includes Randall Phebus, co-project director and professor of animal sciences and industry, and Jeanette Thurston, director of the Food Science Institute and co-investigator on the project. It said the project also will rely on input from an industry advisory board.

“Our advisory board will be regularly updated on research progress,” Thurston said. “We will communicate with them in real-time to make sure we are on the right track with our research and recommendations and ensure that our findings are rapidly deployed across the processing sector.”

According to K-State, the industry advisory board is made up of senior-level directors of food safety and plant operations at Hormel Foods, Smithfield Foods, National Beef Packing Company, Cargill Protein North America, JBS USA, Wayne Farms, Jennie-O Turkey Store, Tyson Fresh Meats and Costco Wholesale.

K-State said collaborating with the team are co-project directors from the University of Georgia poultry science department, Harsha Thippareddi and Manpreet Singh, providing extensive poultry experience and industry connections and lead the grant’s industry outreach efforts. It said Valentina Trinetta and Sara Gragg, food safety faculty from the Food Science Institute, are co-project directors. It said **co-investigator Anke Richter, a public health-focused operation research specialist at the Naval Postgraduate School**, will lead the risk assessment driven by mathematical modeling. It said co-investigators Yunjeong Kim and Erin Schirtzinger in the College of Veterinary Medicine and the Food Science Institute’s Daniel Vega round out the project team.

<https://www.wibw.com/2020/09/15/usda-funds-k-state-research-on-covid-19-in-meat-processing-plants/>

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Why the U.S. Still Has a Severe Shortage of Medical Supplies

(*Harvard Business Review* 17 Sept 20) ... Robert Handfield, Peter Guinto, & USAF Maj. Daniel Joseph Finkstadt, Naval Postgraduate School GSDM Assistant Professor

It may be hard to believe after all these months, but the shortages of personal protective equipment (PPE) and other critical health care supplies for dealing with the pandemic in the United States *still* haven’t been solved. Instead, they continue and some have gotten worse. Hospitals, nursing homes, and medical practices routinely have to waste time and heighten their disease exposure by decontaminating disposable masks and gloves for reuse. Many organizations must still forage for critically needed equipment through back channels and black markets. And while the supply of ventilators is no longer an issue, shortages of ICU medications and test-kit reagents remain.

The reason is that a slew of glaring supply-chain deficiencies have yet to be fixed. Our team, which was involved in efforts by the federal government’s Supply Chain Task Force to understand and address the problems, found that the deficiencies are very solvable — if the federal government gives the Strategic



National Stockpile agency greater clout, provides it with access to better information and technology, and beefs up its expertise.

The need is critical — both for dealing with possible surges in the virus this fall and for managing future health and terrorism crises whenever they arise.

A critical backstop

In a health emergency, states and health-care organizations that run low on medicines and equipment are supposed to be able to rely on the Strategic National Stockpile (SNS), a creation of the George W. Bush Administration. But the SNS, originally intended as a safety net in case of short-term threats such as bio-terror attacks, was not designed to handle a pandemic of this scale.

Partly for that reason, the pandemic caught the SNS flat-footed and unprepared. When the virus hit, the supply of masks had not been replenished since the H1N1 pandemic in 2009, and the usage dates for many of the masks had expired. Some were falling apart. Supplies of other PPE and ventilators were inadequate and were quickly depleted in February.

While grossly inadequate levels of funding heavily contributed to its poor performance, that is really a symptom of a much larger set of problems. The federal government task force (the three of us were members of its various teams) identified three major systemic issues and have proposed a series of solutions. These recommendations are still under consideration, but nothing has changed.

The SNS's profile is too low

The SNS suffers from low visibility — or at least it did before the pandemic. Consequently, its influence and ability to garner support and resources have been limited. When the SNS was created in the aftermath of 9/11, terrorism was foremost on the intelligence community's collective mind, but in the following years, through two successive administrations, some of the original sense of urgency dwindled. Despite experts' warnings about the risks of global diseases, the SNS slid into semi-obscurity. It became an afterthought and a low governmental priority. For example, the strategic plan for responding to national health emergencies was not renewed after 2017, and funding for replenishing stockpiles was repeatedly cut.

This lack of visibility and clout led to a situation where the SNS was relegated to a small team within the massive bureaucracy of the U.S. Department of Health and Human Services (DHHS). Dominated by virologists and clinicians, DHHS excels at medical assessment but is not geared toward predicting or planning for disasters.

SNS managers were able to see early on that the medical-equipment supply chain was threatened by manufacturing shutdowns and high demand in China: Wuhan, the location of the pandemic's origin, is also the world's main production center for masks and other PPE. But their warnings were not taken seriously by medical personnel within DHHS.

"The problems we saw with PPE in Wuhan in January never saw the light of day," an SNS manager told one of us in an interview. "People in D.C. just didn't understand the complexity of global supply chains...and our efforts to get leadership to act fell by the wayside." It took weeks of going through red tape for DHHS to act, by which time the global supply of PPE had virtually dried up.

The SNS needs a higher profile and greater influence. It should be guided by a board of governors representing such federal government organizations as the Department of Defense, the Biomedical Advanced Research and Development Authority, the National Institute for Occupational Safety and Health, the Food and Drug Administration (FDA), and the Centers for Disease Control and Prevention (CDC). (There is a good model for this in the Department of Defense, where decisions about acquiring and distributing supplies during contingency operations are made jointly across multiple branches.)

At the same time, the SNS needs to coordinate its activities with executive agencies such as the Federal Emergency Management Agency (FEMA) and DHHS. The best solution would be a standing committee that meets quarterly to update the agencies. The shortage of masks and ventilators would have been much less severe if, back in January, the SNS had been able to mobilize these organizations to find, create, and incentivize new domestic sources.



The SNS's information is inadequate

To be able to produce quick and efficient decisions in a crisis, the SNS needs to lay the groundwork by doing advanced planning, analyzing markets to assess the global availability of PPE and ventilator components, and creating sourcing plans for every key need that might arise. To do this kind of planning, it must have abundant, dependable, real-time information from a broad array of sectors on the status of supplies, pandemics, terrorist events, and other unexpected disruptions. And it must be able to validate and integrate this information

The SNS falls short in all these areas.

For example, in our work with the task forces we discovered that the SNS's inventory-management systems have not been upgraded since the agency was founded in 2004 — an eternity by the standards of today's rapidly advancing technologies. Because its systems are so old, the SNS uses very little bar-code technology and instead relies on laborious data entry and homemade solutions. At one point we noticed that SNS staffers were photographing pallets with their cell phones and loading the pictures onto a shared drive as a method for recording what had been received. Pictures of pallets are not useful for tracking where material is in the system, when it is consumed, or when it expires.

The end result is that the SNS has very little ability to “see” into its stockpiles. It cannot effectively monitor inbound materials, consumption rates, expiration periods, or potential shortages. Nor is it able to see how much stock is within each state's system.

Unsurprisingly, medical organizations, facing critical shortages, have been hoarding information as well as supplies. We observed hospitals that were reluctant to share any type of information on their material stocks. One hospital administrator we spoke with stated that the nursing staff was hiding PPE in cabinets, afraid the equipment would be taken away and sent to other hospitals. This secretiveness further impedes the SNS's ability to know where supplies are truly needed.

The first thing the SNS needs to do on the information front is acquire better, more-modern inventory management systems that rely on blockchain transaction channels along with QR or bar-coding systems linking all inventory items. Legislation and policy changes would be needed to do this.

We envision the SNS creating a virtual “control tower” from which it could see when inventories are running low and expiration dates are coming up. This would consist of several elements: a bar-code system for tracking inbound and outbound material; warehouse-management systems for aggregating data at each site; a single, trusted repository for all relevant global data; and a real-time visualization system that shows the status of all of the SNS's and the states' materials. From any secure mobile devices, authorized users would be able to access the system, collaborate, and make decisions.

In addition, meetings with the board of governors and the standing committee that we propose above would help position the SNS to get better intelligence on emerging threats and the state of global supply chains.

The SNS lacks crucial expertise

The SNS's hard-working employees are doing their best in the crisis, but we found key gaps in expertise. We believe that the SNS's slow response and lack of effectiveness in the crisis is partly due to a shortage of people who are capable of understanding the current state of play in the supply chain, making decisions, getting rapid authorization, and taking immediate action.

The agency needs people who are expert at adapting sourcing strategies to rapidly changing situations. It needs people who can understand such developments as the dynamics of the Asian health-care market and the shifting nature of supply and demand across multiple categories (e.g., PPE, drugs, vaccines, ventilators, and testing kits).

In addition, the agency needs sourcing analysts for each major category of material to learn where shortages and surpluses are occurring in complex global markets. A sourcing analyst is needed not only for PPE but also for pharmaceuticals, specialty chemicals, electronic components for medical devices, test kits, laboratory supplies, and so on. Again, a good model is the Department of Defense, where category managers rely on sourcing analysts to monitor key supply markets and update sourcing strategies based on current events and evolving risk scenarios.

The SNS should assemble a Pandemic Planning Team that would develop monthly inventory reviews tied to forecasts of various risk events. This federal-level team would oversee similar state-level pandemic teams that would report on local inventory and demand. A few states have created such teams, but they are often ad hoc and temporary. The country needs a solid, permanent network of state-level teams that can jump into action in the event of another emergency.

The SNS also needs to have knowledgeable, well-prepared people reviewing all of its sourcing agreements with suppliers. Increased expertise would significantly improve the SNS's response time and effectiveness.

All these changes will require a determined leadership effort from the government. But we see no alternative. Getting control of the supply chain for emergency materials is absolutely critical to the nation's short-term health and its long-term resilience.

<https://hbr.org/2020/09/why-the-u-s-still-has-a-severe-shortage-of-medical-supplies>

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US Election 2020: Russian Hackers 'Ramp Up Attempts' to Attack Trump and Biden Campaigns

(Express.co.uk 19 Sept 20) ... Manon Dark

Russian, Iranian and Chinese hackers have stepped up their attempts to target groups and individuals linked to the 2020 US presidential election which could undermine American democracy, an expert has warned.

Microsoft have said that the Russian hackers who attacked the 2016 Democratic campaign are again attempting to infiltrate this year's election. The tech giant said the activity "makes clear that foreign activity groups have stepped up their efforts targeting the 2020 election."

Both the Democratic and Republican party campaigns have been targets of the hackers according to Microsoft.

Tom Burt, Corporate Vice President at Microsoft, said in a statement: "In recent weeks, Microsoft has detected cyberattacks targeting people and organizations involved in the upcoming presidential election, including unsuccessful attacks on people associated with both the Trump and Biden campaigns, as detailed below.

"We have and will continue to defend our democracy against these attacks through notifications of such activity to impacted customers, security features in our products and services, and legal and technical disruptions."

Scott Jaspar, lecturer in the National Security Affairs Department at the US Naval Postgraduate School, told Express.co.uk why the hackers may be trying to infiltrate the US election.

He said: "Russia attempts to weaken the United States through cyber enabled influence operations that sow discord and divide society by aggravating contentious election issues."

Mr Jaspar, who recently wrote the book 'Russian Cyber Operations: Coding the Boundaries of Conflict', highlighted how foreign cyberattacks can affect the US democratic process.

He said: "A broader Russian effort to hack and potentially leak antagonistic positions from both political parties undermines US voter confidence and participation in the democratic process."

Microsoft said Russian hackers from the group Strontium, also known as Fancy Bear, targeted more than 200 organizations.

Many of the institutions targeted are linked to both Donald Trump and Joe Biden's election campaigns.

The Russian hacker also attacked political parties in the UK, according to Microsoft.

But the tech firm did not specify which parties were targeted in the UK.

Mr. Burt said: "Similar to what we observed in 2016, Strontium is launching campaigns to harvest people's log-in credentials or compromise their accounts, presumably to aid in intelligence gathering or disruption operations.

“Many of Strontium’s targets in this campaign, which has affected more than 200 organizations in total, are directly or indirectly affiliated with the upcoming US election as well as political and policy-related organizations in Europe.”

Russia and China have both denied the claims made by Microsoft.

The spokesman for Russian President Vladimir Putin, Dmitry Peskov, said the Kremlin has never attempted to infiltrate other countries’ elections.

An intelligence analyst at the US Department of Homeland Security revealed last week that he was pressured to downplay the threat of Russian interference in the upcoming US election.

The whistleblower Brian Murphy said he was pushed to lessen the reality of the threat as it “made the president look bad”.

Both the White House and the Department of Homeland Security have denied the claims.

Mr. Jaspas said the Chief of the Intelligence Office has told Congress they will no longer be conducting in-person briefings about election security, but will instead issue written updates.

He said the US military has stepped up its actions to prevent foreign cyberattacks with a new doctrine “which includes for example a disclosure last month on Drovorub malware used by the Russian military intelligence unit in the Microsoft report”.

But Mr. Jaspas warned that there are much larger risks from Russia which threaten to disrupt American society.

He said: “While Russian attempts to influence election outcomes upset political unity and violate international law, the larger risk of foreign cyberattacks in the US are in the power grid, which Russian government cyber actors successfully penetrated in 2018 to the point where they could throw switches and disrupt power flows at American electric utilities.”

<https://www.express.co.uk/news/world/1337013/Donald-Trump-microsoft-russia-hackers-US-2020-election-joe-biden-china-iran-latest>

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Most of the Arctic’s Microscopic Algae Are Chilling Under Ice

(EOS.ord 21 Sept 20) ... Rachel Fritts

New modeling has produced a surprising result: Most photosynthesis in the Arctic Ocean happens under the ice rather than in the open ocean.

Marine phytoplankton are the solar panels of the sea, soaking up the Sun’s rays to make energy that powers ocean ecosystems. These single-celled organisms photosynthesize like plants, sucking carbon out of the atmosphere and producing about half of the world’s oxygen. Scientists consider phytoplankton to be the ocean’s most important primary producers, because they take energy directly from the Sun and make it available to the rest of ocean life in such vast quantities.

The role of phytoplankton as the ocean’s favorite vegetarian snack means scientists can learn a lot about an ecosystem by measuring annual phytoplankton blooms. But that’s easier said than done in the ice-covered Arctic Ocean. Satellites, which researchers typically use for the task, cannot penetrate the ice to the water below, and ice-breaking research vessels can peek at tiny slivers of the ocean at only certain times of the year. Some research voyages in ice-breaking vessels, however, have found evidence that phytoplankton can grow in abundance under meter-thick ice. If true across the Arctic, this would mean that the Arctic Ocean has more primary production than researchers thought possible.

In new research, *Kinney et al.* use a sophisticated 3D model of the Arctic’s atmosphere, land, and sea to estimate phytoplankton levels across the entire Arctic Ocean. The research revealed something surprising: Most photosynthesis in the Arctic Ocean is taking place in ice-covered waters. In fact, the model estimates that over 40% is taking place in areas with more than 85% ice coverage, and the total amount of photosynthesis has increased by about 5% per decade in the past 40 years. As climate change warms the ocean, ice thin enough for blooms to form underneath is becoming more common.



“What we’re seeing now is thinner sea ice and earlier snowmelts, so there’s more light actually reaching through the ice into the surface of the ocean than there used to be,” said **Jaclyn Kinney, an oceanographer with the Naval Postgraduate School** in Monterey, Calif. “These little algal cells can grow better than they used to.”

The revelation that most of the Arctic’s phytoplankton can be found in ice-covered waters means that previous estimates of Arctic primary production are likely too low. The model’s results also imply that climate change is already affecting production in the Arctic Ocean, but it’s unclear exactly how this impact will change over time. These findings can help direct future field observations, which can, in turn, help fine-tune future models.

“I would not expect that production will continue to increase indefinitely,” Kinney said. “I think at a certain point, stratification and nutrient limitation will alter the trend.”

<https://eos.org/research-spotlights/most-of-the-arctics-microscopic-algae-are-chilling-under-ice>

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ALUMNI:

Joseph Dituri aka Dr. Deep Sea, Who is He!!

(America Daily Post 15 Sept 20) ... Theresa Davidson

Probably, the name Dr. Deep Sea is more popular than Joseph Dituri, his real name. And there is no doubt that everyone is now fully aware of who Dr. Deep Sea is but how he came to earn the very name and what he did is known to a very few people.

It all began in 1985 when Joseph Dituri was enlisted in the U.S. Navy. For several years, he worked hard and served actively on various ships and shore stations where he used to be involved in saturation diving and ship repair, and he loved every moment of it. Joseph Dituri served at his designation for ten years. At the same time, he also got enrolled in a bachelor’s degree in Computer Science at the University of South Carolina.

In 1995, after he earned his B.S. in Computer Science, Joseph Dituri was commissioned into the Special Operations Officer pipeline. He also became the Diving Officer at Mobile Diving and Salvage Unit One and the Operations & Salvage Officer onboard USS Salvor.

After serving for a few years, he made a switch toward the engineering side, serving as the Engineering Duty Officer (Diving Officer) at Pearl Harbor Naval Shipyard. Joseph Dituri dedicated enough time there that he saw himself becoming the Nuclear Project Superintendent, Project Manager, Docking Officer, Diving Officer and Business Operations Officer.

With the aim to pursue a master’s degree, **Joseph Dituri transferred to Naval Post Graduate School**, where he earned his degree in Astronautical Engineering, and his thesis topic was in Orbital Determination. Because of that very reason, Joseph became an invited speaker on a variety of space-related topics. While he was still on tour, Joseph also completed the “Saturation Diving Officer school” as a preparation for his follow up assignment.

After he completed his master’s, Joseph was assigned as Officer-in-Charge Deep Submergence Unit (DSU) Diving Systems Detachment (DSD), where he worked hard, and a few years later, the DSD won the white “D.S.” award for deep submergence excellence and certified the 2000 fsw Atmospheric Diving System for fleet use under his command.

Joseph also became the Program Manager’s Representative for NAVSEA PMS 394, the Submarine Rescue Diving & Recompression System (SRDRS). Upon fielding and initial testing, the team introduced the SRDRS into Naval service and took it on two international engagements. At that time, Joseph earned the DAWIA certification of Level III in Program Management.

A few years later, Joseph transferred to become the Executive Officer and designing the transfer under pressure saturation diving template for Navy Submarine Rescue. Sometime later, Joseph served his final position in the U.S. Navy as Special Operations Command in Special Operations Research



Development and Acquisition Center Program Executive Officer – Maritime Systems. There, Joseph was designated as the Chief Engineer, Program Manager for Undersea Systems Technical & Certification Program, as well as deputy Program Manager for Combat Craft.

During that time, Joseph also earned the DAWIA certification of Level III in System's Engineering. He also became the owner of several awards, including three Navy Achievement Medals, a Joint Service Achievement Medal, an Army Commendation Medal, and four Navy Commendation Medals, a Joint Service Commendation Medal and a Joint Meritorious Service Medal.

He retired from the U.S. Navy in 2013, carrying on his professional life as a motivational speaker. His life experiences from all over the world have enabled him to capture the real essence of what it takes to be able to communicate with people. He then decided to go back to school and earn a Ph.D. in Biomedical Engineering with the aim of fixing problems in medicine and undersea he observed throughout his 28-year Navy career. Hence earning the name, Dr. Deep Sea.

Moreover, Joseph Dituri, a.k.a Dr. Deep Sea has also penned down a number of diver-training manuals. He is also the co-author of the book "Tao of Survival Underwater." Joseph is also the contributing author who helps in writing various parts of the Navy Diving Manual. His work has been published in several journals, including those produced by the American Society of Naval Engineers and American Institute of Aeronautics and Astronautics.

As of today, Dr. Deep Sea is investigating the use of hyperbaric medicine for the treatment of the current COVID 19 outbreak. He said, ***"It operates in very much the same way for COVID-19 patients...; COVID-19 patients cannot get enough oxygen into their lungs and bloodstream to give their cells enough to survive. COVID-19 also decreases red blood cells' ability to carry oxygen, effectively starving body cells and, consequently, the rest of the body's cells. Additionally, it helps slow the cytokine storm which enhances healing."***

Joseph loves skydiving, enjoys writing books and has a long-term goal of being a civilian astronaut!

<https://www.americadailypost.com/joseph-dituri-aka-dr-deep-sea-who-is-he/>

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Finalist Identified for Truro Town Manager Post

(Cape Cod Times 15 Sept 20) ... Ethan Genter

The Select Board will interview a fourth candidate for the town manager job next week.

On Tuesday, the board unveiled Darrin Tangeman, the city manager of Woodland Park, Colorado, as the last finalist to be interviewed for the top job in town.

Tangeman is scheduled to meet with Town Hall staff on Thursday, attend a community forum on Friday and have a public interview with the Select Board on Monday.

A vote on whether to offer the job to Tangeman is scheduled for Tuesday before the board's regular meeting.

"I feel strongly that serving as Town Manager for the Town of Truro is a once in a lifetime opportunity that provides the ideal environment for my long-term personal and professional goals," Tangeman wrote in his application. "My family and I are truly excited at the privilege and opportunity to live, work, and play in Truro."

Tangeman is the last of four finalists that a search committee brought to the board earlier this year. He previously dropped out before the public interview process started more than a month ago.

Since then, Paul Fetherston, another candidate from Colorado, dropped out between his interview and the Select Board's deliberations. The board declined to offer the job to Sean O'Brien, the director of the Barnstable County Department of Health and Environment, in favor of Robert Wood, a city manager from Texas. However, negotiations with Wood eventually fell through.

With the other three candidates out of the running, the board is now reconsidering Tangeman.

Tangeman started in municipal management in 2015 as the chief administrative officer for Pueblo West, Colorado. In 2018, he took on the job in Woodland Park. Before his municipal days, he had a 22-



year military career — most recently serving as a special operations senior executive with the Army Special Forces, where he managed “strategic military, diplomatic and political engagements in the United States, Europe, Middle East, and Africa,” according to his resume.

Tangeman has a master’s degree in business administration from the University of Kansas, a master’s degree in public administration from University of Colorado at Denver and **a master’s of science in defense analysis from Naval Postgraduate School in Monterey, California**. He also has been through the Senior Executives in State and Local Government Program at the Harvard Kennedy School.

“He’s very well educated, great experience. The screening committee was very impressed with him when they interviewed him,” said Bernard Lynch, the head of a consulting firm brought on by the town to help in the town manager search.

“Having recently visited the area in 2018, I know the Town of Truro has an excellent reputation as a friendly, rural, safe and well-run historical beach town that possesses an outstanding quality of life,” Tangeman wrote in his letter. “My family and I cannot think of a more ideal environment for our long-term personal and professional goals.”

<https://www.capecodtimes.com/news/20200915/finalist-identified-for-truro-town-manager-post>

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A Tribute to the Seven Crew Members Tragically Killed Aboard the Challenger

(*Men’s Health* 15 Sept 20) ... Adrianna Freedman

On January 28, 1986, five astronauts and two payload specialists (which included one teacher) stepped onto the space shuttle Challenger at the Kennedy Space Center in Cape Canaveral, Florida. The mission was meant to be a routine event; the crew would help bring a series of satellites to space. No one expected seventy-three seconds after takeoff that the shuttle would not only explode, but kill all crew members aboard.

Challenger: The Final Flight, a new docuseries premiering on Netflix, explores the days leading up to the fateful flight. The show provides exclusive interviews from family members and archived training footage to reveal what happened in the days leading up to and after the tragedy.

Each person of the seven-person space crew came to the mission with his or her own project. From a young high school teacher from New Hampshire to one of the first women to ever join NASA, the members are remembered for their bravery and inspiring future astronauts. Here's a quick look at the seven-person crew who tragically died while aboard the Challenger:

Francis R. Scobee—Commander

Before he became the pilot of the mission, Scobee held a Bachelor of Science degree in Aerospace Engineering from the University of Arizona and served in the U.S. Air Force as a combat aviator during the Vietnam War. He joined NASA in January 1978, and by August 1979, had completed all his training. Before piloting *Challenger*, he also served as a flight instructor for NASA's 747 carrier aircraft.

Michael J. Smith—Pilot

As the pilot of the Challenger, Smith's voice was the last one to be heard on the spacecraft's recorder. He held a master's degree in aerospace Engineering and later served in the U.S. Navy, where he flew 28 different kinds of aircrafts for almost 5,000 hours during his tenure. Joining NASA in 1980, Smith was a commander for several programs, including Shuttle Avionics Integration Laboratory (SAIL) and the Flight Operations Directorate.

After his death, Congress posthumously gave him the rank of Captain. **He also received a Chair in his honor at the Naval Postgraduate School in Monterey, California.**



Ronald McNair—Mission Specialist

As one of the crew's mission specialists who also grew up at the height of the Civil Rights movement, McNair was involved in an incident where the local, segregated library in Lake City, South Carolina refused to let him, a young Black man, take out the books he needed for school in 1959. After the police and his mother showed up to try and solve the issue, the library eventually let him go check out his books, bringing slight change to his segregated hometown. (The library was later renamed to honor him after the Challenger explosion.)

After having received a Ph.D in Physics from MIT, McNair eventually joined NASA in 1978. He had previously flown aboard the Challenger for a mission in 1984, making him the second African-American to ever go to space. After his death, his hometown honored him by renaming the local park to the Ronald E. McNair Memorial Park.

Ellison Onizuka—Mission Specialist

Another mission specialist, Onizuka became the first Asian-American (and first person with Japanese ancestry) to go into space after being part of the crew for the space shuttle Discovery in 1985. After having received bachelor's and master's degrees in Aerospace Engineering, he joined the U.S. Air Force in 1970 and served as a flight test engineer and pilot at the McClellan Air Force Base in Sacramento, California.

Onizuka eventually joined NASA in 1978, where he joined SAIL and worked on various teams. Following the disaster, it was discovered that he and fellow mission specialist Judith Resnik were the only ones alive for a two-minute interval after the Challenger's cockpit split from the rest of the shuttle, after activating their emergency breathing apparatuses called Personal Egress Air Packs (PEAPS). He also was posthumously promoted to the rank of colonel in the Air Force.

Judith Resnik—Mission Specialist

The last of the three mission specialists, Resnik was first American Jew, the second woman nationally and fourth woman worldwide to ever fly into space. She was one of only sixteen women in the U.S. to ever attain a perfect SAT score at the time of her entering Carnegie Mellon University, where she attained a degree in Electrical Engineering. She later received a Ph.D in the same field from the University of Maryland.

Resnik was recruited to join NASA in 1978, where she was one of six women out of 8,000 people applying for the job. She eventually flew on the first Discovery mission in 1984, where she held up a sign saying, "Hi Dad." While working at NASA, she worked on researching and developing novel operating softwares for the space agency's future missions.

Posthumously, Resnik was honored with a lunar crater and a dorm at Carnegie Mellon named after her. Her biggest legacy is the IEEE Judith A. Resnik Award, established in 1986, given yearly to an individual or team who brings outstanding contributions to space engineering.

Gregory Jarvis—Payload Specialist

As one of two payload specialists for the mission, Jarvis received a bachelor's degree in electrical engineering at SUNY Buffalo and a master in the same field from Northeastern University before joining the U.S. Air Force. After receiving a job at Hughes Aircraft, he was one of two candidates to work on the Space Shuttle Program at NASA in 1984.

After his death, he was honored with the renaming of the East Engineering building at SUNY Buffalo (Jarvis Hall) and his hometown school of Mohawk Central High School in Mohawk, NY (Gregory B. Jarvis Middle School). He also posthumously received the Congressional Space Medal of Honor in 2004.

Christa McAuliffe—Payload Specialist, Teacher

As the other payload specialist, McAuliffe was a social studies teacher at Concord High School in New Hampshire when she was selected from more than 11,000 applicants to join NASA's Teacher in Space Project in 1985. She received a bachelor's degree in history and education from Framingham State



College in 1970 and eventually received her master's in education, supervision, and administration from Bowie University in 1978.

While in space, McAuliffe was planning lessons to teach her students from the shuttle. Among the lessons, she was slated to give a presentation about space travel titled "Where We've Been, Where We're Going, Why." After the explosion and her death, several honors were bestowed on her posthumously. She has two buildings in New England named after her (the McAuliffe-Shepard Discovery Center in Concord, NH and the Christa Corrigan McAuliffe Center for Education and Teaching Excellence at Framingham State University), along with forty schools across the country. In 2017, McAuliffe was inducted into the International Air & Space Hall of Fame at the San Diego Air and Space Museum.

<https://www.menshealth.com/entertainment/a34025324/challenger-crew-members/>

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Where is Michael J. Smith's Family Now?

(The Cinemaholic 15 Sept 20) ... Kriti Mehrotra

Netflix perfectly describes the plot of their four-part original documentary series 'Challenger: The Final Flight,' with its synopsis, saying: "Engineers, officials, and the crew members' families provide their perspective on the 1986 Space Shuttle Challenger disaster and its aftermath." From why the shuttle had a teacher as a crew member to how it exploded, this series delves deep into covering every aspect, including the decision-making process and the engineering faults that ultimately caused 7 innocent space travelers to lose their lives. Among those who recount the events of that day and remember the collateral damage are the wife and children of Michael J. Smith, the Pilot of the Challenger Space Shuttle.

Who Are Michael J. Smith's Wife and Kids?

Born April 30, 1945, in Beaufort, North Carolina, Michael J. Smith had almost always had this dream of going to space. Therefore, he went on to study Naval Science from the United States Naval Academy and even earned a **Master's degree in Aeronautical Engineering from their Postgraduate School**. In fact, he only applied to be a test pilot for the Navy so that he could have the opportunity to become an astronaut one day. When Michael proposed to Jane Jarrell Smith, he made his ambitions clear and asked her directly if she had a problem with it. She didn't, so she said, "No, sounds good to me," and thus, the pair went ahead to tie the knot.

Jane was 21-years-old and Michael was 22 when they got married, and although she admits that it seems pretty young, it was perfectly fine for them because of how happy and compatible they were. Together, the couple had three children – Scott, Allison, and Erin – and then, they began their own mission of enjoying life. As the year 1980 came around, Michael's dream was realized, but again, instead of jumping at the opportunity to be an astronaut, he asked his wife's opinion. When Michael was selected as a part of Challenger's crew, he knew the risks, and so, before the launch, he left quarantine in the middle of the night to spend time with his family.

Michael's children admitted that they knew that there was a possibility of them never seeing their father again because of his actions – the deep conversations, the long walks, and the sneaking out – but they didn't really comprehend the seriousness of it until it was too late. Jane and all her kids were right there in Cape Canaveral, Florida, on January 28, 1986, watching Challenger's launch, and they saw it go up and turn into smoke and nothingness in real-time. It took them a while, but then they knew that the worst had happened and that Michael would never be coming back home again.

Where Are Michael J. Smith's Wife and Children Today?

It has taken the family years and years, but it seems as if they have all moved on from the catastrophe to the best of their abilities, while still keeping the memories of Michael alive. Jane, like all the other spouses of the Challenger's crew, continues to serve as a Founding Director for the



Challenger Center for Space Science Education and has even remarried. In 1991, after she fell in love again, to support her family and to slowly let go of the past, she married a Virginia physician by the name of Hugh Dixon Wolcott – a longtime family friend of the Smith's. Today, with him, she resides in Virginia Beach, Virginia.

As for Michael J. Smith's children, as per the last reports, apparently, all of them are married and are now living a good, safe, and happy life with their respective families. Scott Smith, the eldest of the Smith's children, resides in Boston; Allison Balch, who was 14 in 1986, now works as a schoolteacher; and Erin, the youngest, is also married and is residing in Virginia Beach, Virginia, close to her mother. At one point, she was working at a nearby Navy base and taking care of the horses there.

As far as we know, Erin still has the little teddy bear that she was clutching when the Challenger space shuttle exploded more than 34 years ago – the teddy which was apparently a gift from her father.

<https://www.thecinemaholic.com/where-is-michael-j-smiths-family-now/>

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Test Pilot School Alumni Reach for the Stars

(NAS Patuxent River Tester 17 Sept 20) ... Rob Perry

The first group of NASA astronauts since the announcement of the Artemis program graduated from the Johnson Space Center in Houston during a ceremony Jan. 10. Among the graduates were two men and a woman who attribute their success, in part, to attending the U.S. Naval Test Pilot School (USNTPS).

Matthew Dominick, a Navy lieutenant commander, graduated from USNTPS, based at Naval Air Station Patuxent River, Maryland, and served on USS Ronald Reagan (CVN 76) as department head for Strike Fighter Squadron (VFA) 115. Dominick was one of 11 NASA and two Canadian Space Agency astronauts in the recent graduation class.

Raja Chari, an Air Force colonel, served as the commander of the 461st Flight Test Squadron and the director of the F-35 Integrated Test Force at Edwards Air Force Base in California following his USNTPS graduation.

Jasmin Moghbeli, a Marine Corps major, is a distinguished graduate of USTPS. Moghbeli tested H-1 helicopters and served as the quality assurance and avionics officer for Marine Operational Test and Evaluation Squadron (VMX) 1.

Speed and man's interaction with machines sparked Dominick's early interest in flying and, ultimately, his decision to enlist in the Navy.

"[As a child] I was always building things in my backyard or in my garage and probably breaking my dad's tools and figuring out how to work things," Dominick said. "I am fascinated by human-machine integration and how we interact with machines. And I was always interested in going faster and higher ... but I quickly realized there are limits to what you can do without an education, and the Navy presented me with that opportunity."

Like many of his colleagues, Chari first knew he wanted to fly as a career in late middle school, but his inspiration was perhaps a little different from theirs.

"I was really into 'Star Wars' at the time, but at some point, I realized that I couldn't fly an X-Wing in real life and fighter jets seemed like a logical Plan B," Chari said with a laugh. "And being an Air Force guy, I'm probably going to catch a lot of flak for saying this, but I can't lie that 'Top Gun' didn't play a role in it, too."

Moghbeli, who cut her aviation teeth piloting helicopters for the Marine Corps, said her first flight aboard a Cessna with a family friend cemented her desire to fly. Around the same time, she decided to pursue a career in the Marine Corps.

"Both my grandparents served in the military in Iran. My Mom's father served in the Iranian Navy, so I think from an early age, I started having an interest in the military," Moghbeli said. "I was initially looking at the Navy and then, in my junior year of college at a career fair, I talked to an officer at a



Marine Corps booth, and ended up going to officer candidate school that same summer and enjoyed getting commissioned after that.

“I have always liked the idea of service to country and traveling and adventure, and I’ve always played sports,” Moghbeli said. “Rivalry really appealed to me.”

Test Pilot School Offers Path to Space

The path to exploring beyond the Earth’s atmosphere was different for each of the newly minted astronauts, but these three share a special bond having completed the unique training experience at USNTPS.

Dominick earned a bachelor’s degree in electrical engineering from the University of San Diego and a **master’s degree in systems engineering from the Naval Postgraduate School in Monterey, California**. His thirst to continue learning and a desire to contribute to the fleet in a more effective way led to him to apply to USNTPS.

“I was in my fleet squadron and I realized that what was right for me—based on what I love to do—was to go to test pilot school because that would be a place where I could explore further how [to] make things better for the fleet,” Dominick said, remarking that USNTPS pilots actively participate in testing aircraft and troubleshooting issues that arise in order to repair and improve systems.

“Test pilot school is about a way of thinking about problems and a way to communicate issues. Most of test pilot school is really just understanding complex things and distilling them down into a way that people can understand, so that problems can get resolved. Most people think about test pilots like, edge of the envelope, keeping an airplane flying, conducting these really extreme high-risk test points. That’s kind of the glamour shot. But 95 percent of test piloting is reading and writing—and writing very well.”

After graduating from the Air Force Academy and earning his master’s degree in aeronautics and astronautics from the Massachusetts Institute of Technology, Chari was considering whether to pursue a career in engineering or aviation when a friend gave him some valuable advice.

“He said, ‘Did you know there’s this place called the U.S. Naval Test Pilot School where you can actually do engineering work and fly, too?’” Chari recalled. “To me, that sounded like a perfect blend of my interests.”

Chari applied to USNTPS while assigned to an F-15 Strike Eagle squadron in England, and was thrilled when, the following year, the school offered him a place.

“It was a pretty amazing experience, and I made friends that I still keep in touch with today,” Chari said. “It’s definitely not a walk in the park, but it’s also fun when you remember to take a step back and look at it. You’ll be grumbling that you have to write this huge paper, but then you remind yourself that you’re doing it because tomorrow, you’ll get to fly a plane you’ve never flown before.”

USNTPS also opened up another career path for Chari that, until then, had seemed only a distant possibility—being an astronaut.

“Honestly, I didn’t really think it was realistic until I got selected for test pilot school,” he said. “That’s when it dawned on me that this astronaut idea was now actually within the realm of possibility.”

Moghbeli earned her bachelor’s degree in aerospace engineering with information technology at MIT and a **master’s degree in aerospace engineering from the Naval Postgraduate School** before being accepted to USNTPS, which she admits was more challenging than she anticipated.

“I think I underestimated a bit,” Moghbeli said. “I remember when I first got there, we received this email about the ‘You’ll Be Sorry Party.’ I was like, ‘what do you mean ‘you’ll be sorry?’ You know, like, it can’t be that bad. The long-standing joke is you spend half your day in class, half your day flying and half your day writing reports. It was very, very time consuming trying to do everything to the level that I wanted.”

Teamwork and Troubleshooting:

Key Ingredients

What is it that makes USNTPS one of the key pipelines for people who seek to become astronauts?



Marine Lt. Col. Rory Feely, Commanding Officer, USNTPS, said that in addition to the school's comprehensive curriculum, top-notch instructors and highly competitive application process, it is the school's emphasis on teamwork that benefits future astronauts.

"When you look at the qualities and characteristics of those who are successful in applying to NASA and becoming astronauts, I think it is the teamwork side of their personality that sets them apart," Feely said. "And we foster that trait here because close collaboration between aviators and engineers is a critical part of flight test, not just here at the school but throughout the Navy's other test squadrons."

"There's nothing we do in life these days that we do by oneself," Feely said. "Our disciplines and our endeavors are just far too complicated for one person to be able to cover all the bases. USNTPS graduates learn from experience that their success is dependent on their ability to work with and to trust others as a team."

Feely speaks from experience; he worked with Moghbeli in early 2012 when both were assigned to the operations department of Marine Light Attack Helicopter Squadron (HMLA) 367 at Camp Pendleton, California—and, in fact, Feely wrote a letter of recommendation in support of her application to USNTPS.

"She never, ever quit, which is a fantastic attribute to have," Feely said. "I used to tell people that the only reason she's working for me is because I outranked her, otherwise I'd be working for her."

Founded in 1945, the USNTPS trains developmental test pilots, flight officers, engineers and industry and foreign partners in the full-spectrum test and evaluation of aircraft and aircraft systems. The school is in the forefront of developing modern test techniques, and is a leader in the standardization of flight test. It is the only source of rotary-wing test pilots in the United States and serves as the Army's test pilot school. Graduates leave the program prepared to meet the wide range of requirements necessary to conduct research, developmental and operational test and evaluation activities in support of U.S. military services, government agencies and many foreign nations.

For military pilots, flight officers and engineers who want to become astronauts, USNTPS isn't the only gateway, but it is one of the most successful, Feely said. But those people have to really want it, he said.

"USNTPS is very selective about who is allowed to participate in the program, both on the staff side and the student side, and those who make it through the doors are already very accomplished in many areas of their careers not only academically, but also in terms of their flight performance," Feely said. "A person may have hopes of becoming an astronaut when they become a pilot in the military, but first they have to build their reputation by aiming higher and seeking out greater challenges."

Dominick said his USNTPS experience prepared him for uncertainties while in the air and ways to quickly troubleshoot issues as they arise.

"[USNTPS] puts you in situations in which you are uncomfortable. When you first get there, the first aircraft you fly is one you are unfamiliar with," said Dominick, who had experience with fixed-wing aircraft, but found himself in the cockpit of a helicopter as his first flying experience at USNTPS. "They want to make you uncomfortable and to assess what is going on. I think that was really valuable experience."

"Also, if you want to have influence, if you want to be there in the early stages of development and make the fleet have better tools to do the job, then go to USNTPS."

Moghbeli reiterated that having an immediate impact to the fleet was a fulfilling reward for those who attend USNTPS.

"Something I loved about it was that it allowed me to combine that operational experience I had from the fleet with [my] engineering background. And the cool thing about it is you graduate from test pilot school and you're immediately having impacts to aircraft systems, weapons systems, avionics, things that are going to be going out to the fleet," she said. "I remember I was working on an electrical warfare pod as the project manager after graduating. I would give feedback, the engineers would incorporate it, and I would test again. That iterative process, of seeing the active change in that product and giving the fleet something that I felt was a better product, was a very satisfying experience for me."



Chari agreed with his colleagues about the value of finely honed problem-solving skills in day-to-day military service. “If you’ve ever been frustrated with a system because it doesn’t work the way it should, the way to deal with that is to go to test pilot school and become part of the solution,” he said. “You will develop the ability to influence future systems and make them better for the operators who come after you.”

Solving Space Challenges

All three astronauts said they draw on their experiences and knowledge gleaned from USNTPS on a daily basis, mostly their troubleshooting skills and thought processes to improve existing technology.

Dominick, who is currently working with Moghbeli on the Orion lunar lander for NASA’s planned return to the Moon, said his skills from USNTPS are directly impacting that program. Specifically, Dominick said he is addressing challenges of being able to dock the Orion spacecraft with the lander, and then have the lander touch down on the Moon and then be able to redock once leaving the Moon’s surface.

“We’re going to visually fly one spacecraft into another ... it’s very analogous to some of the tasks we did at test pilot school,” Dominick said. “When I was at [Air Test and Evaluation Squadron] VX-23, I was involved with the Precision Landing Mode program, initially called MAGIC CARPET, working on landing [an aircraft] on the ship in a more precise way. And what’s really funny is that I am now using the same exact fundamental control laws and human system integration that we were using for landing on a ship ... to learn how to land on the moon.”

“I’m looking at using my background as a helicopter test pilot to look at how we train for this mission, what trainers can we use and what’s out there. And what’s cooler than that?” Moghbeli said. “To be able to work on the next lunar lander as a new astronaut is pretty cool.”

“It’s a natural progression from test pilot school to NASA,” said Chari, who is now the test director for NASA’s Commercial Crew Program, helping ready the Boeing Starliner and SpaceX Crew Dragon for crewed spaceflights. “A lot of what we’re doing with the new vehicles is very much test related. All of the vehicles being developed need people who have test backgrounds and who understand the acquisition process. And we have to be very good at managing many tasks at once. So it’s a very translatable skillset.”

The new graduates may be assigned to missions destined for the International Space Station, the Moon, and ultimately, Mars. According to NASA, the organization has plans to send the first woman and next man to the surface of the Moon by 2024. Additional lunar missions are planned once a year thereafter and human exploration of Mars is targeted for the mid-2030s.

https://www.dcmilitary.com/tester/news/local/test-pilot-school-alumni-reach-for-the-stars/article_e6ae8a3f-a420-56d8-a282-c71bfe8e451b.html

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